



GENERAL ASSEMBLY

COMMONWEALTH OF KENTUCKY

2009 REGULAR SESSION

HOUSE BILL NO. 185

THURSDAY, FEBRUARY 26, 2009

The following bill was reported to the Senate from the House and ordered to be printed.

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TREY GRAYSON
SECRETARY OF STATE
COMMONWEALTH OF KENTUCKY
BY R. Adles

AN ACT relating to mine safety.

Be it enacted by the General Assembly of the Commonwealth of Kentucky:

1 ➔ Section 1. KRS 352.220 is amended to read as follows:

2 For purposes of this section, "approved" means that a device, apparatus, equipment,
3 machinery, or practice employed in the mining of coal has been approved by the
4 commissioner of the Department for Natural Resources or accepted by a nationally or
5 federally recognized testing laboratory or the Department of Labor Mine Safety and
6 Health Administration; "suitable" means a design, material, or installation that meets the
7 requirements of its intended use or that is accepted by a nationally or federally recognized
8 testing laboratory or the Department of Labor Mine Safety and Health Administration.

9 (1) The following shall apply to underground installations:

- 10 (a) Nonconductive or insulated materials shall be used when trailing cables or
11 high voltage feeder cables are suspended;
- 12 (b) Suitable circuit-interrupting devices shall be provided for all power circuits
13 and equipment at the mine;
- 14 (c) All power wires and cables shall be properly insulated and protected by proper
15 installation or guarding;
- 16 (d) Ground wires for circuits shall have a total cross-sectional area of not less
17 than one-half (1/2) the power conductor;
- 18 (e) Extra length or long trailing cables shall be spread out in long open loops or in
19 a figure-eight configuration on a clean, well rock-dusted floor where the cable
20 can be protected against mechanical injury, but cables suspended in long open
21 loops shall be acceptable;
- 22 (f) One (1) temporary splice may be made in any trailing cable. No temporary
23 splice shall be made in a trailing cable within twenty-five (25) feet of the
24 machine except cable reel equipment. Splices in trailing cables shall be made
25 in a workmanlike manner and shall be mechanically strong and well insulated.

- 1 Splices made in cables shall provide continuity of all components;
- 2 (g) Three-phase alternating-current circuits used underground shall contain either
- 3 a direct or derived neutral which shall be grounded through a suitable resistor
- 4 at the power center, and a grounding circuit, originating at the grounded side
- 5 of the grounding resistor, shall extend along with the power conductors and
- 6 serve as a grounding conductor for the frames of all the electrical equipment
- 7 supplied power from that circuit;
- 8 (h) The frames of hand-held electrically driven tools shall be properly grounded
- 9 or double-insulated by design. The frames of all pumps shall be properly
- 10 grounded. Hand-held tools and all pumps shall be properly protected by
- 11 suitable fuses, circuit breakers, or other no less effective devices to provide
- 12 the minimum overload and shortcircuit protection required by the department;
- 13 (i) All underground high-voltage transmission cables shall be installed only in
- 14 regularly inspected air courses and haulageways, and shall be covered, buried,
- 15 or placed so as to afford protection against damage, guarded where men
- 16 regularly work under or pass under them unless they are six and one-half (6-
- 17 1/2) feet or more above the floor or rail, securely anchored, properly insulated,
- 18 and guarded at ends, and covered, insulated, or placed to prevent contact with
- 19 other circuits. Underground high-voltage cables used in resistance grounded
- 20 systems shall be equipped with metallic shields around each power conductor,
- 21 with one (1) or more ground conductors having a total cross-sectional area of
- 22 not less than one-half (1/2) the power conductor, and with an insulated
- 23 internal conductor not smaller than No. 10 (AWG) or an insulated external
- 24 conductor not smaller than No. 8 (AWG) for the ground continuity check
- 25 circuit. All cables shall be suitable for the current and voltage and shall be
- 26 properly maintained;
- 27 (j) Power circuits shall have suitable disconnecting devices and short-circuit

1 protective devices at or near the supply end of the circuit. Suitable
2 disconnecting devices shall be provided at the beginning of all branch circuits;

3 (k) Underground transformer stations, battery charging stations, substations,
4 rectifiers, and water pumps shall be housed in noncombustible structures or
5 areas or be equipped with a suitable fire-suppression system.

6 1. When a noncombustible structure or area is used, these installations
7 shall be:

8 a. Ventilated with intake air that is coursed into a return air course or
9 to the surface and that is not used to ventilate working places; or

10 b. Ventilated with intake air that is monitored for carbon monoxide
11 or smoke by an atmospheric monitoring system (AMS) installed
12 and operated in a suitable manner. Monitoring of intake air
13 ventilating battery charging stations shall be done with sensors not
14 affected by hydrogen; or

15 c. Ventilated with intake air and equipped with sensors to monitor for
16 heat, carbon monoxide, or smoke.

17 2. The sensors used for monitoring shall de-energize power to the
18 installation, activate a visual and audible alarm located outside of and on
19 the intake side of the enclosure, and activate doors that will
20 automatically close when any of the following occurs:

21 a. The temperature in noncombustible structure reaches one hundred
22 sixty-five (165) degrees Fahrenheit;

23 b. The carbon monoxide concentration reaches ten (10) parts per
24 million above the ambient level for the area; or

25 c. The optical density of smoke reaches 0.022 per meter.

26 3. At least every thirty (30) days, sensors installed to monitor for carbon
27 monoxide shall be calibrated with a known concentration of carbon

1 monoxide and air sufficient to activate the closing door, or each smoke
 2 sensor shall be tested to determine that it functions correctly.

3 4. When a fire suppression system is used, the installation shall be:

- 4 a. Ventilated with intake air that is coursed into a return air course or
- 5 to the surface and that is not used to ventilate working places; or
- 6 b. Ventilated with intake air that is monitored for carbon monoxide
- 7 or smoke by an atmospheric monitoring system installed and
- 8 operated in a suitable manner.

9 5. All monitoring systems used to monitor intake air ventilating battery
 10 charging stations under subparagraphs 1. and 4. of this paragraph shall
 11 be done with sensors not affected by hydrogen.

12 6. This paragraph shall not apply to:

- 13 a. Rectifiers and power centers with transformers that either are dry-
- 14 type or contain nonflammable liquid, if they are located at or near
- 15 the section and are moved as the working section advances or
- 16 retreats;
- 17 b. Submersible pumps;
- 18 c. Permissible pumps, and associated permissible switchgear;
- 19 d. Pumps located on or near the section that are moved as the
- 20 working section advances or retreats; or
- 21 e. Small portable pumps. Underground stations containing
- 22 transformers or circuit breakers filled with flammable oil shall be
- 23 provided with door sills or their equivalent, which will confine the
- 24 oil if leakage or rupture occurs, and shall be of fireproof
- 25 construction. Underground transformers purchased after June 16,
- 26 1972, shall be air cooled or cooled with nonflammable liquid or
- 27 inert gas. Portable power centers, portable transformers, and

1 distribution centers which are essentially fireproof are not required
2 to be placed on separate splits of air but shall be stationed in well
3 ventilated places outby the last open crosscuts;

4 (l) Electrically powered locomotives shall be provided with suitable electrical
5 protective devices;

6 (m) Suitable firefighting equipment shall be located at strategic points along the
7 belt conveyor, and proper fire extinguishers shall be provided at the transfer
8 points. The commissioner may prescribe any other safety measures for the
9 prevention and combating of mine fires as they pertain to conveyor belts. Only
10 approved flame resistant belting shall be taken into and used inside any mine,
11 and all underground belt conveyors shall be provided with slippage and
12 sequence switches and with start and stop controls at intervals not to exceed
13 one thousand (1000) feet. The controls shall be properly installed and
14 positioned so as to be readily accessible;

15 (n) Communication wires and cables shall be adequately insulated and protected
16 by proper installation or guarding;

17 (o) Telephone wires shall be provided with lightening arresters where the wires
18 enter the mine and at the buildings on the surface;

19 (p) Insulating mats shall be placed in front of disconnecting devices and all
20 electrical installations where required;

21 (q) Ground wires in trailing cables shall be tested weekly for open circuit and
22 high resistance;

23 (r) Power circuits in tipples, buildings, cleaning plants, etc., and all underground
24 electrical circuits shall be deenergized when not in use over a long period;

25 (s) All underground power circuits and electrical equipment shall be de-energized
26 before work is done on the circuits and equipment except when necessary for
27 troubleshooting or testing. When electrical work or major mechanical work is

1 performed, a suitable disconnect providing visible evidence that the power is
2 disconnected shall be locked open and a tag shall be posted by the individuals
3 performing the work. Locks and tags shall be removed only by the persons
4 who installed them, or if those persons are unavailable, by a person authorized
5 by the operator. Repairs or maintenance shall not be performed on machinery
6 until the power is off and the machinery is blocked against motion, except
7 where machinery motion is necessary to make adjustment;

8 (t) Where electric circuits cross over or pass under belt conveyors the wiring
9 shall be suitably protected; and

10 (u) Switch boxes, contactors, controllers, and all other similar devices shall be
11 kept free of significant accumulations of combustible dust.

12 (2) The following shall apply to trolley wires and trolley feeder wires:

13 (a) On all haulage roads, landings, and partings where persons are required to
14 regularly work or pass under bare power wires placed less than six and one-
15 half (6-1/2) feet above the top of the rail, suitable protection shall be provided.
16 This protection shall consist of channeling the roof, placing boards along the
17 wires and extending below them, or the use of some other approved device
18 that affords protection;

19 (b) All machine feed conductors shall be placed on suitable insulators which shall
20 be so placed as to prevent the conductors coming in contact with combustible
21 or conductive materials;

22 (c) When the machine or feed wires are carried in the same entry as the trolley
23 wire, they shall be placed on the same side as the trolley wire, between the
24 trolley wire and rib, and shall be protected from contact therewith. Positive
25 feed wires crossing places where persons are required to travel shall be safely
26 guarded or protected against persons coming in contact therewith, as required
27 by paragraph (a) of this subsection;

- 1 (d) All trolley and positive feed wires shall be placed on opposite sides of track
2 from refuge holes or necks of rooms when so ordered by the department, but
3 wires, when protected as required by paragraph (a) of this subsection, may be
4 placed across the necks of rooms. Switches or circuit breakers shall be
5 provided to control the current at the mine and all important sections in the
6 mine;
- 7 (e) Where track is used for the return circuit, at least one (1) side shall be bonded
8 to the full length of the trolley wire installation. Cross-bonds shall be installed
9 not to exceed two hundred (200) foot intervals along the track; and
- 10 (f) All mine locomotives shall be fused or otherwise protected at the switch or at
11 the nip.
- 12 (3) The following shall apply to surface installations:
- 13 (a) High-voltage lines shall be at least twenty (20) feet above the ground where
14 there is a possibility of contact by traffic passing underneath;
- 15 (b) Electrical circuits, wires, and cables shall be supported on insulators except
16 when cables, which are of a design that can be safely used without insulators,
17 are used;
- 18 (c) Lightning arresters shall be installed on all ungrounded, exposed power
19 conductors and telephone wires entering a mine, regardless of voltage.
20 Overload protection and disconnect switches of suitable sizes and ratings
21 approved by the department shall also be provided, except that they shall not
22 be required of telephone wires;
- 23 (d) Every metallic building in which electricity is used or connected with any
24 circuit shall be effectively grounded;
- 25 (e) All transformer tanks shall be effectively grounded;
- 26 (f) Switch boxes, contactors, controllers, and all other similar devices shall be
27 kept free of significant accumulations of combustible dust that create a fire

1 hazard;

2 (g) Surface transformer stations shall be housed or fenced in when lower than
3 fifteen (15) feet above the earth, and the fences shall be a minimum of six (6)
4 feet in height; and

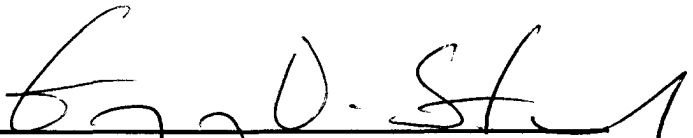
5 (h) All surface power circuits and electrical equipment shall be de-energized
6 before work is done on the circuits and equipment except when necessary for
7 troubleshooting or testing. When electrical work or major mechanical work is
8 performed, a suitable disconnect providing visible evidence that the power is
9 disconnected shall be locked open and a tag shall be posted by the individuals
10 performing the work. Locks and tags shall be removed only by persons who
11 installed them or, if those persons are unavailable, by a person authorized by
12 the operator. Repairs or maintenance shall not be performed on machinery
13 until the power is off and the machinery is blocked against motion, except
14 where machinery motion is necessary to make adjustments. When disconnects
15 for stationary low and medium voltage equipment that do not provide visual
16 evidence that the power is disconnected are used, an adequately rated voltage
17 detector shall be used to test each phase conductor or circuit part to verify they
18 are de-energized before any work is performed. When practical, confirmation
19 that the voltage detector is operating satisfactorily shall be made before each
20 test.

21 (4) (a) Notwithstanding any provisions of subsection (1), (2), or (3) of this section,
22 the department may authorize the construction, maintenance, operation, or
23 conducting of any activity regulated by this section, to be constructed,
24 maintained, operated, or conducted in a different manner than specified in any
25 provision of subsection (1), (2), or (3) of this section, when scientific or
26 engineering information is made available to the department substantially
27 indicating that the different manner would afford equal or greater protection

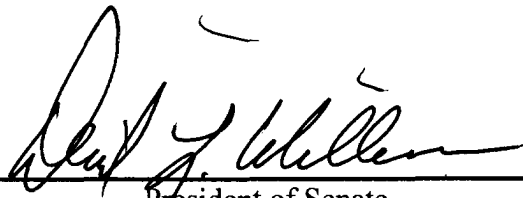
1 and safety than the manner required in subsection (1), (2), or (3) of this
2 section; and

3 (b) The department may prescribe administrative regulations with respect to the
4 aboveground or underground installations in connection with any mine
5 operation when information is made available indicating that regulation is
6 reasonably necessary to prevent injury to, or loss of, life and property.

7 (5) All electrical work shall be performed by a certified electrician, *or an electrical*
8 *trainee under the direct supervision of a certified electrician,* at all underground
9 mines and surface mines operating draglines or highwall miners.




Speaker-House of Representatives



President of Senate

Attest: 

Chief Clerk of House of Representatives

Approved 

Governor

Date 3-20-09